1. Answer in short:

(a) Give the long form of CLPA, DA, ANAL A.@ R0, DJNZ.

(b) Explain following instruction :-ADD, ANL CLR CPL.

(c) Give the bit definition of PSW register of 8051.

(d) What is a Flag w.r.t 8051?

2. (a) How many instruction types are there in 8051 instruction set?

(b) Give the INTERNAL STRUCTURE of RAM and explain.

OR

2. (a) What do you understand by addressing mode in 8051? How many addressing modes are there in 8051 controller?

(b) Explain the STACK and the STACK POINTER of memory in 8051.
Short notes on : (any two)

(a) 8051 Serial ports
(b) Three CONTROL REGISTER of 8051
(c) PIN Diagram of 8051
(d) Microcontroller timer and counter

Write programme : (any two)

(a) Write a program to flash LED 10 times.
(b) Interfacing an LCD to 8051.
(c) Write program to add and subtract.
(d) Write a program to transfer 'A' to 'Z' letter continuously using second serial port.